

In the claims

1. (Currently amended) Process for deliming water and simultaneously removing pollutants, as well as the disinfection and destruction of permanent forms of parasites in a reactor having a reaction chamber which includes a wall, with an inlet and an outlet, accompanied by the process comprising the steps of:
 - a) heating of the water, so that the solubility of CO_2 in the water is reduced and CO_2 desorption is initiated, which can also be increased by a pH-rise ($2\text{HCO}_3 \rightarrow \text{CO}_3 + \text{CO}_3^{2-}$); ~~and where through a~~
 - b) simultaneously gassing the water by means of air introduction; whereby CO_2 discharge is increased; ~~and~~
 - c) ~~provision and arrangement of~~ providing and arranging one or several removable or fixed plates in the reaction chamber with intense mixing accompanied by the deflection of the water flow at the reactor wall, as well as increased crystal nucleation and crystal growth on the wall and;
 - d) ~~if necessary, keeping~~ the heated water ~~is kept~~ at an elevated temperature if necessary and ~~gassed~~ gassing or ~~the further gassing of the~~ water takes place without a heat supply; ~~and~~

wherein the resulting lime and fouling elements which have been deposited below the plate or plates and on the heating surfaces or reactor walls are detached by turbulence and discharged through the water.
2. (Currently amended) Reactor for deliming water and simultaneously removing pollutants, as well as the disinfection and destruction of permanent forms of

parasites, the reactor comprising

- a treatment chamber with an inlet for the water to be treated and an outlet for the treated water;
- ~~with~~ a direct or indirect heater for the water;
- one or more horizontal, removable plates for deflecting the water flow in the chamber, which plates are fixed in ~~the~~ a lower area of the reactor and spaced from ~~it's~~ the chamber's bottom and side wall,
- a gassing device disposed outside the reactor and having a pipe passing centrally into the reactor and with a gas distributor terminating below the plates,

and wherein in the case of a discontinuously operated reactor the outlet is positioned between the ~~reactor~~ chamber bottom and the plate or plates, and in the case of ~~whereas~~ for a continuously operated reactor the outlet is positioned above the plate or plates.

3. (Currently amended) The reactor ~~Reactor~~ according to ~~claims 1 and/or claim 2, characterized in that~~ wherein the reactor includes a cover and the plates are fixed to the reactor cover by one or more high-grade steel bars.

4. (Currently amended) The reactor ~~Reactor~~ according to ~~claims 1 to claim 3, characterized in that~~ wherein the reactor together with the plate or plates it is made from stainless steel or any thermally resistant material with a high surface energy.

5. (Currently amended) ~~The reactor~~ Reactor according to ~~claims 1 to~~ claim 4,
~~characterized in that~~ wherein the plate or plates have a perforated border.
6. (Currently amended) ~~The reactor~~ Reactor according to ~~claims 1 to~~ claim 5,
~~characterized in that~~ wherein the reactor wall surface in contact with the water is
rough.
7. (Currently amended) ~~The reactor~~ Reactor according to ~~claims 1 to~~ claim 6,
~~characterized in that~~ wherein ~~there is a following~~ second bubble column is
formed in the case of a continuous operation reactor.
8. (Currently amended) ~~The reactor~~ Reactor according to ~~claim 1~~ 2,
~~characterized in that~~ wherein the water is heated ~~for heating the water~~ with an
integrated electric heater, and the heat supply to heater is positioned ~~the reactor~~
~~takes place~~ directly or indirectly from below and/or laterally of the reactor.
9. (Currently amended) ~~The reactor~~ Reactor according to ~~claim 1~~ 2,
~~characterized in that~~ wherein the reactor is double-walled and ~~for heating the~~
~~water use can be made of a double-walled reactor, in which~~ is heated by means
of heat exchange with steam or hot oil ~~and by heat exchange the reactor content~~
~~can be heated~~.